Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue, wherein the generator comprises an RF output stage having:

at least one RF power device,

at least one pair of output lines for delivering RF power to the instrument, and

a series-resonant output network coupled between the RF power device and the said pair of output lines,

protection circuitry responsive to a predetermined electrical condition indicative of an output current overload substantially to interrupt the RF power supplied to the output network,

and wherein the output impedance of the output stage at the output lines is less than 200/ÖP ohms, where P is the maximum continuous RF output power of the generator in watts.

2. (Canceled)

3. (Currently Amended) A generator according to ~~claim 2,~~ claim 1, further comprising protection circuitry responsive to application of a short circuit across the output lines, and wherein the series-resonant output network is such that the rate of rise of the output current at the output lines when the short circuit is applied is less than (ÖP)/4 amps per microsecond.

4. (Currently Amended) A generator according to ~~claim 2,~~ claim 1, further comprising protection circuitry responsive to application of a short circuit across the output lines, and wherein the protection circuitry is responsive to the said short circuit sufficiently

quickly to disable the RF power device before the current passing therethrough rises to a rated maximum current as a result of the short circuit.

5. (Original) A generator according to claim 4, wherein the power device is disabled in response to the application of the short circuit to the output lines, the disabling occurring in a time period corresponding to less than 3 RF cycles of the delivered RF power.

6. (Currently Amended) A generator according to ~~claim 2,~~ claim 1, wherein the predetermined electrical condition is indicative of an instantaneous current in the output stage exceeding a predetermined level, and wherein the speed of response of the protection circuitry is such that the said condition is detected within the RF cycle during which the instantaneous current exceeds the said level.

7. (Original) A generator according to claim 1, including:

a power supply stage coupled to the RF output stage, the power supply including a charge-storing element for supplying power to the power device or devices and a voltage-sensing circuit arranged to sense the voltage supplied to the RF output stage by the charge-storing element; and

a pulsing circuit coupled to the voltage sensing circuit for pulsing the or each power device, the arrangement of the voltage sensing and pulsing circuits being such that the timing of the pulses is controlled in response to the sensed voltage.

8. (Original) A generator according to claim 7, wherein the voltage sensing circuit and the pulsing circuit are arranged to terminate individual pulses of RF energy delivered by the RF power device or devices when the sensed voltage falls below a predetermined level.

9. (Original) A generator according to claim 8, wherein the predetermined level is set such that the pulse termination occurs when the voltage falls by a predetermined percentage value of between 5 percent and 20 percent.

10. (Previously Presented) A generator according to claim 8, wherein the predetermined level is set such that pulse termination occurs when the peak RF voltage delivered at the output lines has fallen to a value of between 25V and 100V below its starting value for the respective pulse.

11. (Original) A generator according to claim 7, wherein the power supply and pulsing circuit are arranged to generate a pulsed RF output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300 V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms.

12. (Original) A generator according to claim 11, wherein the pulse length is between 0.5ms and 5ms.

13. (Original) A generator according to claim 11, wherein the pulse duty cycle is between 1% and 20%.

14. (Original) A generator according to claim 11, wherein the power supply and pulsing circuit are arranged to generate a pulsed RF output signal at the output terminals, which signal has a peak voltage of at least 300 V throughout the entire pulse length.

15. (Original) A generator according to claim 11, wherein the power supply and the pulsing circuit are arranged to generate, in an initial period, a pulsed RF output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms, and, in a subsequent period, to generate a constant power RF output signal at the output terminals.

16. (Original) An electrosurgical generator according to claim 1, wherein the generator is for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in wet field electrosurgery, and wherein the output impedance of the output stage at the output lines is less than 10 ohms.

17. (Original) An electrosurgical generator according to claim 1, wherein the generator is for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in dry field electrosurgery, and wherein the output impedance of the output stage at the output lines is less than 50 ohms.

18. (Original) A generator according to claim 1, wherein the output impedance is less than 100/ÖP ohms.

19. (Currently Amended) A generator according to ~~claim 2,~~ claim 1, wherein the protection circuitry is responsive to the application of a short circuit at the output lines with sufficient speed that the supply of RF power to the output network is interrupted within a time period corresponding to no more than 20 RF cycles of the delivered RF power.

20. (Original) A generator according to claim 19, wherein the time period corresponds to less than 3 cycles of the delivered RF power.

21. (Original) A generator according to claim 20, wherein the time period corresponds to less than 1 cycle of the delivered RF power.

22. (Original) A generator according to claim 1, having an RF source coupled to the power device, the source defining the operating frequency of the generator, wherein the series-resonant output network is tuned to the operating frequency.

23. (Original) A generator according to claim 22, wherein the source is arranged such that the operating frequency is substantially constant.

24. (Original) A generator according to claim 1, including protection circuitry which has a current sensing circuit including a pick-up arrangement coupled in series between the power device and the series-resonant output network, a comparator having a first input coupled to the pick-up arrangement and a second input coupled to a reference level source, and disabling circuitry coupled to an output of the comparator to disable the power device when the comparator output changes state in response to the instantaneous current

sensed by the pick-up arrangement exceeding the predetermined level as set by the reference level source.

25. (Currently Amended) A generator according to ~~claim 2,~~ claim 1, wherein the protection circuitry includes a monostable stage and is operable, in response to detection of the said predetermined condition, to disable the power device for a limited period determined by a time constant of the monostable stage, the time constant corresponding to less than 20 cycles of the operating frequency of the generator.

26. (Original) A generator according to claim 1, arranged such that the RMS RF output voltage is substantially constant within a load impedance range of from 600/ÖP ohms to 1000 ohms where P is as defined hereinabove.

27. (Original) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument, wherein the generator comprises an RF output stage having at least one RF power device, at least one pair of output lines for delivering RF power to the instrument, and a series-resonant output network coupled between the RF power device and the output lines, the generator further comprising protection circuitry responsive to a short circuit across the output lines, wherein the output impedance of the output stage is less than 200/ÖP ohms, where P is the maximum continuous RF output power of the generator in watts, and wherein the protection circuitry is responsive to the said short circuit sufficiently quickly to disable the power device before the current passing therethrough rises to a rated maximum current as a result of the short circuit.

28. (Original) A generator according to claim 27, wherein said at least one power device is disabled in response to application of the short circuit to the output lines, the disabling occurring in a time period corresponding to less than 3 RF cycles.

29. (Original) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue, wherein the generator comprises an RF output stage having:

at least one RF power device,

at least one pair of output lines for delivering RF power to the instrument, and

a series-resonant output network coupled between the RF power device and the said pair of output lines,

and wherein the generator is configured to be capable of maintaining a peak output voltage of at least 300V over a load impedance range of from 600/ÖP ohms to 1000 ohms, where P is the maximum continuous RF output power in watts.

30. (Original) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in wet field electrosurgery, wherein the generator comprises an RF output stage having:

at least one RF power device,

at least one pair of output lines for delivering RF power to the instrument, and

a series-resonant output network coupled between the RF power device and the said pair of output lines,

and wherein the output impedance of the output stage at the output lines is less than 10 ohms.

31. (Original) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in dry field electrosurgery, wherein the generator comprises an RF output stage having:

at least one RF power device;

at least one pair of output lines for delivering RF power to the instrument; and

a series-resonant output network coupled between the RF power device and the said pair of output lines;

and wherein the output impedance of the output stage at the output lines is less than 50 ohms.

32. (Original) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue, wherein the generator comprises an RF output stage having:

at least one RF power device;

at least one pair of output lines for delivering RF power to the instrument; and

a series-resonant output network coupled between the RF power device and the output lines;

and wherein the generator further comprises a pulsing circuit coupled to the output stage for pulsing the delivered RF power in such a way that the crest factor of the voltage developed across the output lines increases as the load impedance presented to the output lines decreases whilst the peak voltage during pulses is maintained at a value greater than 300V.

33. (Original) A generator according to claim 32, wherein the output impedance of the output stage is less than 10 ohms and the crest factor varies by a ratio of at least 2:1 over a load impedance range of from 10 ohms to 1000 ohms.

34. (Original) A generator according to claim 32, wherein the output impedance at the output lines is less than 50 ohms and the crest factor varies by a ratio of at least 2:1 over a load impedance range of from 50 ohms to 50 kilohms.

35. (Original) An electrosurgical generator comprising a source of radio frequency (r.f.) energy, an active output terminal, a return output terminal, a DC isolation capacitance between the source and the active output terminal, and a pulsing circuit for the

source, wherein the source and the pulsing circuit are arranged to generate a pulsed r.f. output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms.

36. (Original) A generator according to claim 35, wherein the pulse length is between 0.5ms and 5ms.

37. (Original) A generator according to claim 35, wherein the pulse duty cycle is between 1% and 20%.

38. (Original) A generator according to claim 37, wherein the pulse duty cycle is between 2% and 10%.

39. (Original) A generator according to claim 35, operable to generate in a 20ohm load a peak power of at least 1kW, the generator having a resonant output network.

40. (Original) A generator according to claim 35, having output voltage limiting means limiting the peak output voltage to between 900V and 1100V peak-to-peak.

41. (Original) A generator according to claim 35, wherein the source and the pulsing circuit are arranged to generate, in an initial period, a pulsed RF output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms, and, in a subsequent period, to generate a constant power RF output signal at the output terminals.

42. (Original) A generator according to claim 35, wherein the signal has a peak current of at least 3A.

43. (Original) A generator according to claim 41 , arranged to cause said subsequent period to begin at a predetermined time interval after the beginning of said initial period.

44. (Original) A generator according to claim 41, including means for monitoring in use of the generator, the load impedance between the return output terminal and the active output terminal, the generator being arranged to begin said subsequent period when the magnitude of output impedance increases by a factor of 10.

45. (Original) A generator according to claim 41, wherein the source of RF energy includes an RF output stage, and wherein the generator has a power supply stage including a charge-storing element for supplying power to the output stage, and a voltage-sensing circuit for sensing the voltage supplied to the output stage by the charge-storing element, the generator being arranged such that said subsequent period is begun in response to the supply voltage as sensed by the voltage-sensing circuit reaching a predetermined voltage threshold.

46. (Original) A generator according to claim 45, wherein the charge-storing element comprises a capacitance of at least 1000μF, and wherein the capacitance and the voltage-sensing circuit form part of the pulsing circuit, the timing of at least the beginnings of the pulses produced by the output stage during the initial period being determined in response to said supply voltage reaching the said voltage threshold.

47. (Original) A generator according to claim 35, including a resonant output network, the generator power versus lead impedance load curve having a peak at a load impedance of less than 50 ohms.

48. (Original) A generator according to claim 47, wherein the output network is a series-resonant network comprising an in-line inductance, the output of the network being taken across a capacitance which resonates with the inductance.

49. (Original) A generator according to claim 47, wherein the said output network provides a source impedance in the range of from 50 ohms to 500 ohms at the output terminals.

50. (Original) A generator according to claim 47, wherein the RF source includes a variable frequency RF oscillator, the RF output frequency of which is limited to a maximum value below that of the resonant output network in its matched load condition.

51. (Original) An electrosurgery system comprising a generator having a source of radio frequency (RF) energy and, coupled to the generator, a bipolar electrosurgical instrument having an electrode assembly with at least a pair of electrodes, wherein the generator is adapted to deliver RF energy to the electrode assembly as a pulse modulated RF signal which, in use with the pair of electrodes, has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms.

52. (Original) An electrosurgery system according to claim 51, wherein the generator is adapted to deliver RF energy to the electrode assembly, in an initial period, a pulse modulated RF signal which, in use with the pair of electrodes, has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms, and to deliver RF energy to the electrode assembly in a subsequent period as a continuous power RF signal.

53. (Original) An electrosurgery system according to claim 51, wherein the signal has a peak current of at least 3A.

54. (Original) An electrosurgery system comprising a generator according to claim 37 and a bipolar electrosurgical instrument having at least an active electrode coupled to the said active output terminal and a return electrode coupled to the said return output terminal.

55. (Previously Presented) A system according to claim 20, wherein the active electrode is formed as a conductive loop.